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The schematic diagram illustrates a process control system for a distillation column. The column has a reboiler at the bottom (121) and a condenser at the top (107). The reboiler is controlled by a Level Controller (LC) 77, which receives input from a sensor 125. The condenser is controlled by a Pressure Controller (PC) 105, which receives input from a sensor 109. The top product stream (115) is controlled by a Pressure Controller (PC) 103, which receives input from a sensor 101. The bottom product stream (119) is controlled by a Flow Controller (FC) 113, which receives input from a sensor 81. The system also includes a Feed Controller (FC) 93, a Level Controller (LC) 97, and an Accumulator Controller (AC) 99. The feed stream (95) is controlled by a Feed Controller (FC) 93, which receives input from a sensor 83. The level of the bottom product stream is controlled by a Level Controller (LC) 97, which receives input from a sensor 85. The level of the top product stream is controlled by an Accumulator Controller (AC) 99, which receives input from a sensor 87. The system is interconnected with various control loops and sensors, including a Level Controller (LC) 107, a Pressure Controller (PC) 105, a Flow Controller (FC) 113, and a Level Controller (LC) 97.

(57) Abstract: The invention provides for polymerization processes to produce polymers utilizing boiling pool reactor systems and diluents including hydrofluorocarbons.